



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,700	09/11/2003	Nobumasa Abe	Q77453	4744
23373	7590	06/02/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			BEATTY, ROBERT B	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Ak

<b>Office Action Summary</b>	Application No. 10/659,700	Applicant(s) ABE, NOBUMASA	
	Examiner Robert Beatty	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 21,26-29,31 and 34-36 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-13 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,14-16,18-20,22,24,30 and 32 is/are rejected.
- 7) ☒ Claim(s) 2,17,23,25 and 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Claims 21,26-29,31,34-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/18/2005.

It is requested that applicant rewrite claims 22-25,30,32-33 in independent form.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. Claims 5 and 20 are duplicate claims. See 37 CFR 1.75

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,3,5,14-16,18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of JP# 59-204860.

Ito teach an image forming apparatus capable of forming an image in a monochrome mode or a full-color mode (black, yellow, cyan, magenta). The

apparatus comprises a plurality of image supporters 6 each for supporting a different color image. A contact charging roller 7 is associated with each image supporters. A sheet will be carried by a transfer belt 9 so as to receive the toner images from the image supporters via a transfer operation. A motor 54 will drive both the image supporters and the charging rollers via a gear train or belt train (col.4, lines 39-44). Thus a single transmitter will transmit a drive force to each of the image supports and associated charge rollers. During a monochrome mode the motor will operate at twice the speed as during a full-color mode. Specifically, Ito teach everything claimed except a plurality of transmitters for transmitting a drive force from the image supporter to its associated charging member (claim 1) and the charging member being a brush (claim 14).

JP# 59-204860 teach an image forming apparatus having a drive mechanism which transmits a drive from an image supporter 1 to a brush charger 2 via a drive belt 10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a brush charger instead of a roller charger because this is a functional equivalent in the art for the purpose of charging up an image supported (photosensitive drum) and by using a brush one can apply a more even and uniform charging across the image supporter which improve image formation. It also would have been obvious to one of ordinary skill in the art at the time the invention was made to drive the charger via a drive belt connected to the image supporter because it would be easier for both the charger and image supporter to

rotate in synchronization (rather than using different drive mechanisms) which would prevent slipping/sliding and improve uniform charging.

5. Claims 4, 22,24,30,32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of JP# 59-204860 as applied to claim 1,3,5,14-16,18-20 above, and further in view of Takayama (JP# 2000-356876).

The combination of Ito and JP# '860 taught supra discloses most of what is claimed except explicitly stating that during the monochrome imaging mode only one of the image supporters and associated elements (e.g. charge roller) would be rotated and the full-color image being first transferred to an intermediate transfer belt before being transferred to a recording sheet.

Takayama teach an image forming apparatus which is operable to form an image in both a monochrome mode and a full-color mode. A plurality of image supporters 1 in the image stations PRy,PRc, PRk, PRm are arranged above an intermediate transfer belt B so as to transfer the toner images to the transfer belt first in superposition and than transfer the image to a recording sheet in one transfer operation. A drive transmission shaft 11 is slidable between gears G1y - G1k which are associated with the image supporters. When a full color image is selected all the drive gears G1y - G1k are connected to the drive moter M1, but in a monochrome mode only one selected gear will be connected to the motor, disabling the unselected image stations. It would have been obvious to one of ordinary skill in

the art at the time the invention was made to first transfer the color images to a intermediate transfer belt because greater registration control can be ensured (rather than trying to register the images on a movable recording medium). In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to completely disconnect the driving to image stations not selected for the image forming operation because wasted rotation and wear of parts can be prevented.

6. Claims 6-13 are allowable over the prior art of record.

7. Claims 2,17,23,25,33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

EPA '216, Otaki et al., Yamamoto, Kanagawa (JP), Haneda (JP), and JP# '331 all teach various drive arrangements between image supporters and various components.

Art Unit: 2852

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

A handwritten signature in black ink, appearing to read 'Robert Beatty', with a long horizontal line extending from the end of the signature.

Robert Beatty  
Primary Examiner  
Art Unit 2852

May 31, 2005